

REMARKS

Applicants appreciate the detailed examination evidenced by the Official Action mailed June 28, 2005 (hereinafter "the Official Action"). Applicants also appreciate the indication that Claims 17, 18, 25, and 26 include patentable subject matter and would be allowable if rewritten as suggested by the Examiner. *Official Action, page 9.*

In response, Applicants have amended the independent claims to further highlight the patentable subject matter recited therein and to further distinguish the pending claims from the cited references. In brief, the independent claims have been amended, for example, to further highlight that "a top surface of the buried insulation layer is higher than a bottom surface of the field isolation layer." Other patentable distinctions are also found in the claims. Accordingly, Applicants respectfully request allowance of the pending claims for at least the reasons described herein.

Independent Claims 1 and 12 are Patentable Over Mouli.

Claims 1-6 and 9-13 stand rejected under 35 U.S.C. § 102 over U.S. patent publication no. 2004/0038488 to Mouli ("Mouli"). *Official Action, page 2.* As briefly described above, Applicants have amended independent Claim 1 to recite in part:

a gate electrode on an active region of a substrate and on a field isolation layer adjacent to the active region;
a source region and a drain region in the active region on alternate sides of the gate electrode; and
at least one buried insulation layer beneath the drain region or the source region, **wherein a top surface of the buried insulation layer is higher than a bottom surface of the field isolation layer.**

Independent Claim 12 has been similarly amended.

Anticipation under § 102 requires that each and every element of the claim is found in a single prior art reference. *W. L. Gore & Associates Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Stated another way, all material elements of a claim must be found in one prior art source. *In re Marshall*, 198 U.S.P.Q. 344 (C.C.P.A. 1978). "Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention." *Apple Computer Inc. v. Articulate Systems Inc.* 57 USPQ2d 1057, 1061

(Fed. Cir. 2000). A finding of anticipation further requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art. *See Scripps Clinic & Research Foundation v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Additionally, the cited prior art reference must be enabling, thereby placing the allegedly disclosed matter in the possession of the public. *In re Brown*, 329 F.2d 1006, 1011, 141 U.S.P.Q. 245, 249 (C.C.P.A. 1964). Thus, the prior art reference must adequately describe the claimed invention so that a person of ordinary skill in the art could make and use the invention.

Applicants respectfully submit that Mouli does not disclose, at least, the highlighted recitations of Claims 1 and 12 shown above as required under section 102 as outlined above. For example, Figure 1 of Mouli shows that STI 21 is formed on the buried oxidation layer BOX 20 and, therefore, does not disclose, for example, the **top surface of the buried oxidation layer BOX 20 is higher than a bottom surface of STI 21**. To the contrary, Figure 1 of Mouli actually shows that the top surface of the buried oxidation layer BOX 20 is beneath the bottom surface of STI 21.

Applicants respectfully submit that Mouli does not disclose the recitations of amended independent Claims 1 and 12 for at least the reasons described above. Furthermore, dependent Claims 2-11 and 13 are patentable at least per the patentability of amended independent Claims 1 and 12 for at least the reasons described above. Accordingly, Applicants respectfully request the withdrawal of all rejections and the allowance of Claims 1-13 for at least the reasons described herein.

Independent Claim 14 is Patentable over Hieda.

Claims 14, 16, 19-24, and 27 stand rejected under 35 U.S.C. § 102 over U.S. Patent No. 6,482,714 to Hieda et al. ("Hieda"). *Official Action, page 4*. In response, Applicants have amended independent Claim 14 to recite in part:

forming at least one passivation layer in a predetermined region of an integrated circuit substrate;
forming a channel silicon layer on the substrate and **on the passivation layer**;
patterning the channel silicon layer and the substrate to expose sides of the passivation layer and to form a trench defining an active

region;
selectively removing the exposed passivation layer to form a
vacant space; and
forming a buried insulation layer in the vacant space and forming a
field isolation layer in the trench.¹

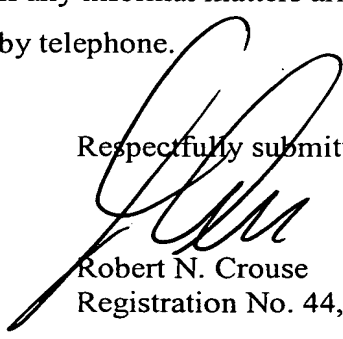
Applicants respectfully submit that Hieda does not disclose at least "**forming a channel silicon layer on the substrate and on the passivation layer**." According to the Official Action, the layer 123 is alleged to disclose the claimed passivation layer and the layer 103 is alleged to disclose the claimed channel silicon layer. However, as understood by Applicants, the alleged passivation layer 123 is formed **above** the alleged channel silicon layer 103. Assuming this to be true for the sake of argument, Applicants respectfully submit that Hieda does not disclose "**forming a channel silicon layer on the substrate and on the passivation layer**" as claimed.

Accordingly, Hieda does not disclose the recitations of amended independent Claim 14. Furthermore, dependent Claims 15-27 are patentable at least per the patentability of amended independent Claim 14 for at least the reasons described above.

CONCLUSION

Applicants have amended independent Claims 1, 12, and 14 to further clarify the patentable subject matter recited therein. Applicants have also provided detailed remarks why the cited references do not disclose the amended claim recitations. Accordingly, Applicants respectfully request the withdrawal of all rejections and the allowance of all claims in due course. If any informal matters arise, the Examiner is encouraged to contact the undersigned by telephone.

Respectfully submitted,


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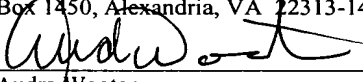
¹ Claim 14 has also been amended to correct a typographical error wherein the recitation of "to forming" has been changed to "to form."

In re: Byeong-chan Lee et al.
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